

REMARKS/ARGUMENTS

In the Official Action dated December 27, 2006, the Examiner has enclosed an "Interview Summary" sheet with respect to a telephone interview held with the undersigned attorney on December 12, 2006. A separate Applicants' Statement of Substance of the Interview form is enclosed herewith.

The Examiner has withdrawn the previous provisional obviousness-type double-patenting rejection based upon co-pending application 10/676,760 in view of the filed Terminal Disclaimer. However, the Examiner has issued another provisional obviousness-type double patenting rejection based upon co-pending application 10/396,067. Accordingly, Applicant has presented a Terminal Disclaimer herewith with regard to said application 10/396,067. It is thus deemed that the rejection thereto has been rendered moot.

As set forth in paragraphs 3 through 8 of the rejection, various claims have been rejected under 35 U.S.C. §112, first paragraph. Claims 16-18 have been rejected upon the allegation that the specification does not provide support for the particle size of 1 to 45 microns apparently for the alkali metal silicate and the zinc oxide. Applicants respectfully disagree. Page 5, lines 2-10 state that sodium silicate and/or zinc oxide function predominately as an interceptor. Page 8, lines 1-14 state that the particle size of the interceptor are important and that each salt (e.g. zinc oxide) and silicate (e.g. sodium silicate) are smaller than 53 microns and preferably from about 1 to 45 microns. That zinc oxide is a salt is set forth in the 11th Edition of Hawley's Condensed Chemical Dictionary, Van Nostrand Reinhold Co., New York, NY, 1987 wherein on page 1255 it is stated that zinc oxide can be used as a zinc salt, copy enclosed.

Claims 19-22 have been rejected upon the basis that the specification does not provide support for the language "wherein said remainder of said composition is substantially said biodegradable or said non-biodegradable diluent polymer." Accordingly, Applicants have deleted such language from each of claims 19-22.

Claims 25 has been rejected upon the basis that there is no support in the specification that the adjuvant comprises fumed silica and calcium carbonate. Applicants respectfully disagree. Page 9, lines 15-17 clearly state that the adjuvant can typically be fumed silica or calcium carbonate. Page 12, lines 23-30 state that an inorganic dispersant, that is an adjuvant, preferably is fumed silica or calcium carbonate. Furthermore, original claim 5 states that the adjuvant can be fumed silica and calcium carbonate.

With regard to claim 26, Applicants have deleted the objectionable language and thus this rejection has been rendered moot.

Paragraphs 9-13 of the official action of December 27, 2006 relate to rejections under second paragraph of 35 U.S.C. 112. Specifically, claims 4 and 25 have been amended by reversing the first parenthesis in the last phenolic compound.

The rejected portion of claim 27 has been deleted.

Claim 28 has been rejected since claim 27 did not provide antecedent support for ethylene/vinyl alcohol. It is respectfully submitted that the Examiner intended to say -- ethylene/vinyl acetate copolymer--. Since ethylene/vinyl acetate has been deleted from claim 28, the rejection has been rendered moot.

Claims 1, 2, 4-6, 16-22, 26-31, 33, 35, and 37 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Boerwinkle (US Patent 4,290,912) in view of Schmidt (US Patent 3,354,117) and Wysong (US Patent 4,119,604).

However, claims 3, 23-25, 32, 34 and 36 which relate to the diluent polymer being a biodegradable polymer have not been rejected upon any prior art. Accordingly, Applicants have amended independent claim 1 to state that the diluent polymer is a biodegradable polymer. Independent claim 26 which relates to a corrosion inhibiting composition has been amended to state that the composition comprises a resinous polymer that is a biodegradable polymer. Accordingly, it is deemed that independent claims 1 and 26 are allowable as well

as all claims dependent therefrom. That is, claims 1-6, 16-22, and 25-31 are allowable as well as newly added claims 38 and 39.

Applicants have presented new claims 40-54 herewith that relate to the diluent polymer being a non-biodegradable polymer. Accordingly, the following remarks and arguments with regard to the applied prior art will relate to these claims.

Boerwinkle has been applied as teaching plastic articles containing a polyolefin polymer, an inorganic nitrite salt, a tri-substituted phenol and fumed silica. It is acknowledged that Boerwinkle is different from the pending claims in that he does not teach the addition of zinc oxide or sodium silicate, that is, interceptor compounds. Thus, the secondary reference of Schmidt is relied upon inasmuch as he teaches stabilized olefin compositions containing a tri-substituted phenol as well as zinc oxide. The secondary reference of Wysong has been relied upon inasmuch as he teaches polyolefin resins, fumed silica, and sodium silicate. Accordingly, it is deemed by the Examiner that it would have been obvious for one skilled in the art to specifically select sodium silicate from the Schmidt reference as well as to specifically select the zinc oxide of the Wysong reference and incorporate the same within the Boerwinkle reference. It is further stated by the Examiner that a patent would not be granted based upon optimization or through routine experimentation unless there is a strong showing of unexpected results which properly rebuts the prima facie case of obviousness.

With regard to unexpected and synergistic results, Applicants present the following table which has been taken from page 19 of the application with the last line being taken from the results set forth on page 22, lines 8-12.

Corrosion Resistance Results
(Higher values mean better corrosion resistance)

Film tested	Corrosion Observed Average
PE with '912 ingredients	7.5
PE with sodium silicate, i.e. (0.06%wt) + '912 ingredients	9.5 (26% increase)
Plain PE	1.5
PE (75%wt) with zinc oxide (25%wt) or sodium disilicate (25%wt), no sodium nitrite (page 21 of application –last three lines and page 22 of application, lines 1-12)	1.5

Considering the secondary references, Schmidt lacks any teaching or suggestion of an alkali metal silicate whereas Wysong lacks any teaching or suggestion of zinc oxide. A very notable fact is that Schmidt and Wysong both lack any teaching or suggestion of sodium nitrite, Applicants' corrosion inhibitor. Thus, the compositions of the Schmidt reference as well as the Wysong reference clearly fall within Applicants' control data set forth in the bottom row of the above table and generally described on pages 19-21 and specifically on the bottom of page 21 and the top of page 22. That is, an ethylene/vinyl acetate copolymer was mixed with sodium disilicate, extruded and pelletized, and subsequently diluted with a much larger amount of polyethylene and extruded into a film so the concentration of the sodium disilicate in the polyethylene film was 1% by weight. Similarly, zinc oxide was mixed with the same copolymer and diluted with polyethylene to yield a film containing 1% by weight zinc oxide therein. Schmidt thus comprises a polyolefin such as polyethylene and zinc oxide as noted by the Patent Office but no sodium nitrite. Wysong utilizes a polyvinyl alcohol along with sodium silicate as noted by the Patent Office but also does not utilize any sodium nitrite. As disclosed in the application on the top of page 22 and the bottom row of the table, when the thermal plastic was mixed and extruded into a film containing either zinc oxide or sodium disilicate, absolutely no improvement in corrosion resistance was observed in comparison with the plain PE example. Thus, data exists within Applicants' specification that the teachings of the Schmidt and Wysong references do not impart any corrosion resistance whatsoever when utilized in a film to encapsulate iron to prevent it from corroding! This was true, even when the amounts of zinc oxide and sodium disilicate were very high, that is 1% by weight of the final film.

As set forth in the table herein above, (also on page 19 of the application) when the polyethylene composition contained the ingredients (sodium nitrite) of the '912 patent, i.e. the Boerwinkle reference, good corrosion values of generally 7-8 were observed. Accordingly, logic dictates that when the film composition contained the '912 ingredients combined in relative equal amounts with either zinc oxide or sodium silicate as an additive, much lower values would be observed such as on the order of about 4-5. Instead, improved values were obtained such as 9-10. The data in the application thus proves that synergistic results were obtained, especially since the utilization of zinc oxide or sodium disilicate with polyethylene and no nitrite yield no corrosion resistance improvement at all! Hence, Applicants respectfully submit that the data in the application proves that not only unexpected but also synergistic results were obtained utilizing either zinc oxide or an alkali sodium silicate with the '912 Boerwinkle ingredients. The prime facie case of obviousness is thus deemed to be rebutted.

The Patent Office states that motivation for combining Schmidt with Boerwinkle exists because Schmidt contains a polyolefin, a zinc oxide, and an antioxidant. However, Schmidt lacks any nitrite compound whatsoever and according to the data set forth in the above table and the application, the utilization of zinc oxide imparts no improved corrosion resistance whatsoever to polyethylene. A fortiori, inasmuch as on page 5, lines 3-11 of the application that zinc oxide is an amphoteric compound and furthermore inasmuch as Hawley's Condensed Chemical Dictionary (Eleventh Edition, Sax and Lewis, Van Nostrand Reinhold Company, New York, NY 1987) notes that zinc oxide is not a corrosion inhibitor, pp 1255, copy enclosed, it is respectfully submitted that there is no factual motivation, teaching or suggestion in Schmidt to combine that reference with Boerwinkle or to add zinc oxide as a corrosion inhibitor to the Boerwinkle composition. Applicants thus respectfully submit that the applied 103(a) rejection is only by way of hindsight. It is thus reiterated that Schmidt is non-analogous art inasmuch as the reference as a whole relates to the use of organic phosphorus compounds with other thermal stabilizers such as zinc oxide and hence has nothing to do with corrosion resistance.

The Patent Office has applied Wysong as teaching conventional adjuvants that are utilized in association with polyolefins such as sodium silicate.

The purpose of sodium silicate in the Wysong reference is to aid in stabilizing film blowing, aid in processing the composition, and to maintain water in the film so that it is plasticized. Nowhere is there any teaching or suggestion that sodium silicate will materially increase the efficacy of a nitrite in a film. Applicants further note that Wysong contains no suggestion whatsoever of using sodium nitrite and that based upon data in the application and the above table, the use of alkali metal silicate with a polyethylene yields no corrosion improvement resistance. A fortiori, inasmuch as sodium silicate is a stable compound as set forth on the top of page 5 of the application and since it is noted in Hawley's Condensed Chemical Dictionary (Eleventh Edition, supra) at page 1255 zinc oxide is not a known corrosion inhibitor, it is respectfully submitted that there is no factual motivation, teaching, or suggestion in Wysong to combine that reference with Boerwinkle or to add an alkali metal silicate as a corrosion inhibitor to the Boerwinkle reference. It is thus respectfully submitted that hindsight has been utilized. Applicants further reiterate their argument that the Wysong reference is non-analogous art since it does not relate to any corrosion resistance whatsoever, but rather the use of compounds that help polymer such as polyvinyl chloride dissolve in water which is antipodal to Applicants' invention.

Based upon the above amendments, arguments, and the enclosed Terminal Disclaimer, a formal notice of allowance of claims 40-54 is earnestly solicited.

Respectfully submitted,

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